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THE STRUCTURE OF THE JAPANESE CAUSATIVE

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1 Introduction

In 1978, discussing two rival analyses of the Japanese causative, Kuno concluded, somewhat wearily, "I am afraid that this problem, too, will remain unresolved for many years to come, and we will see many papers published which attempt to present new and convincing evidence for one analysis or another, with hidden drawbacks of their own." [Kuno 78]. This prediction has of course been borne out, as linguists have proved unable to resist confronting the problems presented by this and similar constructions. These problems all center on the ambivalent behavior of the causative construction[1], which simultaneously exhibits traits associated with simplex and with embedding structures. In this paper I present the data from Japanese, with additional data from Korean, discuss some of the analyses that have been proposed, and formulate an account that avoids at least some of their 'hidden drawbacks', working within the TAG framework of [Joshi Levy & Takahashi 75], [Joshi 83], and [Kroch & Joshi 85].

2 A brief description of the data

2.1 Japanese

The following are examples of Japanese sentences containing causatives:

(1) Mitiko-ga Taroo-ni ik-ase-ta.
NOM DAT go-CS -PAST
"Mitiko caused Taroo to go."

(2) Mitiko-ga Taroo-o ik-ase-ta.
NOM ACC go-CS -PAST
"Mitiko caused Taroo to go."

(3) Mitiko-ga Taroo-ni hon-o yom- ase-ta.
NOM DAT ACC read-CS-PAST
"Mitiko caused Taroo to read a book."

In (1) and (2) the embedded[2] verb is intransitive. In this case, the embedded subject (which will be referred to as the 'causee' from now on) can be marked either by the dative marker 'ni' or the accusative marker 'o'. As has been noted in the literature, there is a difference in meaning between (1) and (2): roughly speaking, in (1) the causation is permissive, in (2) it is coercive. Further, there are restrictions placed on the embedded predicate in the case of the 'ni' causative (it must be an action controllable by the causee) that do not affect the 'o' causative. I do not propose to discuss this aspect of the construction here, but refer the reader instead to [Shibatani 73b]. In (3) the

[1] Japanese has two principal types of causatives, of which I shall be discussing only one in this paper: the '-sase' causative. This type of causative is formed by suffixation of the morpheme '-(s)ase-' onto the stem of the verb. The second type of causative is generally referred to as the 'lexical causative.' There are many verbs that have no corresponding lexical causative, and there are only partial regularities in the relationship between lexical causatives and their corresponding verbs.

In this paper I shall refer to the '-sase' causatives simply as causatives, except when this might cause confusion.

[2] I am of course begging the question by referring to the 'embedded' verb and subject, given that, as will be discussed later, it is possible to argue that the construction does not involve any kind of embedding at any stage. However, I shall continue to use the term 'embedded verb' as a convenient way to refer to the verb whose stem appears in initial position in the complex verb. Arguments concerning the justification for such terminology will follow in subsequent sections.

embedded verb is transitive. In this case the causee is always marked with the dative marker 'ni'.[3] This is the basis of the 'double-o constraint' originally formulated in [Harada 73] and reformulated in [Poser 83]. When the embedded verb in a causative sentence is transitive, so that there is no room for variation in the case marking, the sentence is ambiguous between a permissive and a causative reading.

Causatives can be passivized, in which case the causative morpheme precedes the passive morpheme:

(4) Taroo-ga Mitiko-ni ik-ase-rare-ta
NOM by go-CS -PASS-PAST
"Taroo was made to go by Mitiko."

(5) Taroo-ga Mitiko-ni hon -o yom -ase-rare-ta
NOM by book-ACC read-CS -PASS-PAST
"Taroo was made to read a book by Mitiko."

In both (4) and (5)—that is, with both transitive and intransitive embedded verbs—the passive causative is given a coercive reading. It is also possible to have causatives where the embedded verb is passivized, as shown by the following example quoted in [Baker 85]:

(6) Mary-wa Taroo-o Ziroo-ni home -rare-sase-ta
TOP ACC DAT praise-PASS-CS -PAST
"Mary caused Taroo to be praised by Ziroo."

In Japanese, sentence negation is marked by a morpheme on the verb. It is not possible to form a causative where a verb containing this negative morpheme is embedded under the causative:

(7) *Mitiko-wa Taroo-o ik-ana-sase-ta.
TOP ACC go-NEG-CS -PAST
Intended reading: "Mitiko make Taroo not go."

(8) (taken from [McGloin 73]) is an example of a grammatical causative sentence containing a negative:

(8) yoru no zyuu-ni-zi made benkyoo-s -ase-nakat-ta
night of twelve hour until study -do-CS -NEG -PAST

On one reading (probably the most prominent) the negation takes scope over the matrix clause. In this case the meaning of the sentence is that the speaker did not make the (understood) causee study until midnight (with the implication that the speaker did make him/her study thereafter). However, there is another reading available, under which the speaker did something that prevented the causee from studying before midnight. On this reading, the negative has scope only over the embedded clause and the causative morpheme has affirmative force.[4]

Although in the examples given in this paper I have split the complex verb up into morphemes in order to show more clearly its internal structure, it should be understood that this complex verb undisputedly forms a single morphological word. There is a contrast, for example, with the verb sequence in (9):

[3]There is a small class of Japanese verbs that are generally considered transitive, but which mark their objects with the dative marker 'ni'. When these verbs occur in a causative construction, the causee can be marked with either 'ni' or 'o'

[4]Compare the facts concerning scope ambiguity of negation in German in [Kroch & Santorini 87].

(9) Mitiko-wa Taroo-ni it-te mora -tta
TOP DAT go-GER receive-PAST
"Mitiko had Taroo go."

In sentences like (9) the verbs form a tight intonational group, and adverbs etc. cannot intervene between them. Certain elements can intervene, however:

(10) it-te -wa moraw -anaka-tta, ga ...
go-GER-TOP receive-NEG -PAST but
"I didn't have him/her GO, but (I had him/her do something else)"

(11) it-te -mo mora -tta si...
go-GER-also receive-PAST and
"I had him/her go, and on top of that..."

No such elements can occur within the complex causative verb.

2.2 Korean

The following (quoted from [Gerdts 86]) are examples of Korean sentences containing causatives:

(12) Sensaengnim-i haksaeng-i /-il /-eykey ttena-key ha-yet -ta
teacher NOM student -NOM/-ACC/-DAT leave-CMP do-PAST-IND
"The teacher made the student leave."

(13) Changsu-ka nae-ka /na-lil/na-eykey
NOM I -NOM/me-ACC/me-DAT
ttek -il mek-key ha-yet -ta
ricecake-ACC eat-CMP do-PAST-IND
"Changsu made me eat rice cake."

As can be seen from these examples, the causee in a Korean causative sentence may be marked with the nominative, accusative or dative marker. This range of possibilities holds both with transitive and intransitive embedded verbs. There are different nuances of meaning associated with the different markings, but for a discussion of this I refer the reader to [Choi 83].

As in Japanese, Korean causatives can be passivized:

(14) emeni -ka John-eyiyhaese na-eykey kil-il mut-key ha-yeci-et -ta
mother-NOM by me-DAT way-ACC ask-CMP do-PASS-PST-IND
"Mother was made by John to ask me the way."

And, again, the embedded verb may be passivized:

(15) na-nin pul -il sopangkwan-eyiyhaese kke -ci -key ha-yet-ta
I -TOP fire-ACC firemen -by put out-PASS-CMP do-PST-IND
"I had the fire put out by the firemen."

Unlike Japanese, in Korean the negative morpheme may appear in more than one position in the causative, with concomitant differences in scope (the following are quoted from [Song 77]:[5]

[5]There is another pattern for negative sentences in Korean, for which the same point holds. There is also a similar pattern involving an honorific morpheme, which can appear in two positions—immediately after either the embedded verb or the stem of 'ha-ta', the matrix verb (or in both these positions in the same sentence)—and which is construed with the corresponding subject.

(16) Mary-ka Martha-lil an cwuk-key ha-ess-ta
NOM ACC NEG die CMP do-PST-IND
"Mary caused Martha not to die."

(17) Mary-ka Martha-lil cwuk-key an ha-ess-ta
NOM ACC die -CMP NEG do-PST-IND
"Mary did not cause Martha to die."

The question of whether the verb complex in Korean forms a single morphological word is not easily answered. [Gerdts 86] notes that for almost half of Korean speakers (based on a sample of 40) adverbials cannot intervene between the embedded and the matrix verb; those who do not accept this intervention also do not allow scrambling of the kind that would result in the matrix subject intervening between the two verbs. She concludes that for these speakers, the two predicates form a single morphological word. However, to the best of my knowledge, all speakers of Korean accept causatives where certain particles—such as 'to' (also), and '(n)ĭn' (TOP)—intervene. This behavior of the Korean causative verb complex resembles that noted for the Japanese 'receive' construction exemplified in (9), (10) and (11) above.

3 Analyses

3.1 Simplex structure—the lexical analysis

As was noted in the first section, the Japanese causative verb is a single morphological word. Further, its case arrays parallel more or less exactly other, morphologically simple, verbs: (1),(2) and (3) can be compared with (18), (19) and (20):

(18) Mitiko-wa Taroo-ni at -ta
TOP DAT meet-PST
"Mitiko met Taroo."

(19) Mitiko-wa Taroo-o korosi-ta
TOP ACC kill -PST
"Mitiko killed Taroo."

(20) Mitiko-wa Taroo-ni kore-o atae-ta
TOP DAT this-ACC give-PST
"Mitiko gave this to Taroo."

It is therefore reasonable to pursue the possibility that Japanese causative verbs are formed in the lexicon, and that they occur in simplex sentences like the ones above. Just such an approach can be found in [Miyagawa 80].

Miyagawa argues that the arguments most commonly advanced to support a biclausal analysis of the Japanese causative are weak, and further that there is positive evidence that the complex verb cannot be formed in the syntax. The arguments that Miyagawa attacks include those involving the coreference possibilities of the reflexive 'zibun', the pro-forms 'sore' and 'soo', and the scope of adverbials.

The argument concerning the coreference possibilities of the reflexive 'zibun' involves the contrast between the ambiguity of (21), a sentence with a '-sase' causative, and (22), a sentence with a lexical causative:

(21) Hanako-ga Taroo-ni zibun-no heya-ni hair -ase-ta
NOM DAT self -POSS room-into enter-CS -PST
"Hanako made Taroo enter her(H's)/his(T's) room."

(22) Hanako-ga Taroo-o zibun-no heya-ni ire -ta
NOM ACC self -POSS room-in put-in-PST
"Hanako put Taroo in her/*his room."

This contrast has been accounted for in the following way. [Kuroda 65] noted that the antecedent for 'zibun' must be the subject of a clause—either the clause containing 'zibun' or a higher one. If the sentence with the '-sase' causative contains an embedded sentence with the causee as its subject, this will account for the ambiguity found in (21). In a sentence with a lexical causative, the causee is not a subject of any clause, and hence cannot be an antecedent for 'zibun': hence the non-ambiguity of (22).

As Miyagawa and others have pointed out, however, NPs that are not in subject position of any clause may sometimes serve as antecedents for 'zibun.' Miyagawa gives the following example containing the lexical causative 'kaes-:'

(23) Hayaku Ziroo-o zibun no uti -e kaesi -te simai -nasai
quickly ACC self POSS home to send-back-GER finish-IMP
"Send Jiro(i) quickly back to his(i) (own) house."

[Dubinsky 85] gives a similar example, and also quotes from [McCawley 76] constructions where a non-subject 'experiencer' may antecede 'zibun:'

(24) Zibun-ga Merii-ni karakaw -are -ta koto-ga
self NOM Mary DAT ridicule-PASS-PST fact-NOM
Zyon-o zetuboo-e oiyat-ta
John-ACC despair-to drive-PST
"That he(i) was made fun of by Mary drove John(i) to despair."

Miyagawa is thus correct in asserting that there are problems for the subject-antecedent condition as an account of the interpretation of 'zibun.' I conclude that the evidence provided by 'zibun' does not force a bi-clausal analysis of the '-sase' causative, although it is of course fully consistent with it.

The argument about the pro-form 'soo' also concerns a contrast between ambiguity and non-ambiguity. Compare(25), a sentence with a '-sase' causative, and (26), a sentence with a simple transitive verb:

(25) Taroo-ga Ziroo-o /-ni tomar-ase-ru to
NOM ACC/ DAT stop -CS -TNS when
Hanako-mo soo si-ta
too so do-PST
"When Taro made/let Jiro stop, Hanako did so too." I.e.
(i) Hanako also stopped Jiro.
(ii) Hanako also stopped.

(26) Taroo-ga Ziroo-o tome-ru to Hanako-mo soo si-ta
NOM ACC stop-TNS when too so do-PST
"When Taro stopped Jiro, Hanako did so too." I.e.
(i) *Hanako also stopped Jiro.
(ii) Hanako also stopped.

Thus 'soo' is ambiguous in sentences with a '-sase' causative, such as (25), but unambiguous in sentences with a simple transitive, such as (26). This is unexpected if the '-sase' causative is formed in the lexicon. Miyagawa points out that if Japanese has no VP, 'soo su' does not consistently have a specific constituent as its referent. The referent of 'soo su' in (25ii)—'tomar'—is dominated by a single constituent, the V node, but the referent in (25.i)—'Ziroo-o/-ni tomar-ase-'—does not constitute a single constituent. Miyagawa considers that there is no evidence for the VP node in Japanese, noting that 'the one serious attempt' at motivating this constituent in Japanese ([Nakau 73]) appeals to 'soo su' as crucial evidence. However, debate about the VP node in Japanese has not in fact withered away through lack of positive evidence for its existence: see for example [Hasegawa 80], [Saito 86], and [Whitman]. Miyagawa's argument, based primarily on the assumption of a flat structure, is thus weaker than it may appear, and the evidence from the pro-form 'soo' continues to support that case against a lexical analysis.

There are also weaknesses in his discussion of adverbial scope. The issue involved is the ambiguity of adverbial scope in sentences such as (27), versus the non-ambiguity of (28):

(27) Taroo-wa Hanako-o /ni san -kai tomar-ase-ta
TOP ACC/DAT three times stop -CS -PST
"Taroo told Hanako once to stop, but for her
to do it on three occasions." OR
"Taroo told Hanako on three occasions to stop."

(28) Taroo-wa Hanako-o san -kai tome-ta
TOP ACC three times stop-PST
"Taroo stopped Hanako three times."

Miyagawa notes that the adverbial is ambiguous only when it occurs in the position immediately preceding the verb. He points out that, even if a biclausal structure is assumed, the position of the adverbial shows that its ambiguity cannot be attributed to uncertainty as to where it was generated—it must originate within the embedded clause. He goes on to say that in order to maintain the complex-structure hypothesis it would be necessary to stipulate that semantic interpretation operates at two different levels: once at the deep structure and once again after predicate raising has applied to obtain a simplex structure. However, his argument does not tell against an analysis where there is never a simplex structure—a type of analysis that I shall be proposing—and where it is assumed that elements that originate within embedded clauses may sometimes take scope outside their own clause. That such an assumption is not simply an ad hoc stipulation required only to deal with this case in Japanese is strongly supported by the fact that the same phenomenon can be observed with respect to negation and quantifier scope in German and Dutch ([Kroch & Santorini 87]). Further, Miyagawa offers no alternative explanation for the contrast between (27) and (28).

Miyagawa also does not explain why passive causatives are impossible where the embedded object is promoted to subject, although under his analysis this object is exactly parallel to the object of a ditransitive verb, which can be promoted to subject in a passive.

One further piece of evidence against a lexical analysis of the Japanese causative verb has been brought to light since Miyagawa wrote his dissertation. [Dubinsky 85] discusses the verbal suffix '-nagara'. Dubinsky notes that there are two types of 'nagara' clauses. In one, the suffix is attached to the gerundive or '-te' form of the verb, and the clause has a concessive sense. In the other, the suffix is attached to the stem form of the verb, and implies concurrent action. Dubinsky refers to this latter type as 'DO-nagara', and it is this type that concerns us here. The following is an example of 'DO-nagara:'[6]

(29) Hanako-wa uta -o utai-nagara kaet -ta
TOP song-ACC sing-while return-PST
"Hanako returned home, singing a song."

Dubinsky shows that the objects of simple transitive verbs cannot control DO-nagara equi:

(30) Sensei -wa kodomotati-o tati -nagara sikat-ta
teacher-TOP children -ACC stand-while scold-PST
"The teacher scolded the children while (s)he was standing."
*"The teacher scolded the children while they were standing."

The object causees of lexical causatives behave just like the objects of other simple transitive verbs in this respect:

(31) ??Tanaka-wa Hanako-o uta -o utai-nagara kaesi -ta
TOP ACC song-ACC sing-while return-PST
"Tanaka(i) sent Hanako(j) home, singing a song (i,*j)."

In the '-sase' causative construction, however,both 'o'-marked and 'ni'-marked causees can control DO-nagara equi:

(32) Tanaka-wa Yamada-o sinbun-o yomi-nagara mat -ase-ta
TOP ACC ACC read-while wait-CS -PST
"Tanaka(i) make Yamada(j) wait while he(i,j) read a newspaper."

(33) Tanaka-wa kodomotati-ni suwari-nagara tegami-o kak -ase-ta
TOP children -DAT sit -while letter-ACC write-CS -PST
"Tanaka made the children write a letter while he/they sat."

It would be hard to account for this contrast between '-sase' causatives and ordinary transitive verbs (including lexical causatives) within the framework proposed in [Miyagawa 80].

The positive evidence that Miyagawa offers for a lexical approach to the Japanese causative involves two examples of causative verbs whose meaning cannot be compositionally derived: 'hiki-aw-ase-ru' (cause to meet) and 'niow-ase-ru' (hint). The subordinate verbs in these causatives mean 'pull on each other' and 'smell', respectively. Miyagawa argues that since the meanings associated with the complex causative verbs are idiosyncratic, each of these verbs must be viewed as comprising a single word. This conclusion does not follow, however, given that it is well known that idioms can be syntactically complex (compare English idioms 'call up', 'turn down' etc, which function syntactically exactly like the semantically decomposable 'pull up', 'push down').

A purely lexical analysis of the Japanese causative, then, while possibly a useful corrective to the tendency to ignore the status of the causative verb as a single morphological word, is forced to ignore too many of the aspects of the construction to be considered a satisfactory account.

[6] All the examples of 'nagara' clauses are quoted from [Dubinsky 85] with only minor changes in the glosses to make them consistent with the other examples in this paper.

3.2 Predicate Raising

The particular syntactic analysis of the causative against which Miyagawa is arguing in his 1980 analysis is the predicate raising analysis of [Kuno 73a]. According to this analysis, the deep structure of the Japanese causative is that of a sentence with an embedded S. Following [Kuroda 65], two different structures are posited, which result in the 'o' and the 'ni' causative. I shall not give details of this analysis here, as it is well known, and clear accounts are easily available ([Kuno 73a], [Kuno 78]). The most important aspect of the analysis, and one that is shared with the counter-analysis of [Tonoike 78], is that the embedded verb is raised and adjoined to the matrix verb—the causative morpheme—and that a tree-pruning convention then applies, which deletes the now verbless embedded S-node, so that the final structure is indistinguishable from that of an initially simplex sentence, except for the fact that the verb is a cluster. Thus the ambivalent nature of the causative construction is captured in the fact that it starts out with a complex structure, in which the causative morpheme and the verb to which it attaches are not clausemates, but ends up with a simplex structure.

As has been pointed out by various authors (see [Kroch & Santorini 87] and references contained therein) for an essentially equivalent analysis of verb raising in German, the type of analysis given above is not compatible with standard versions of the GB framework: firstly, clause pruning violates the projection principle because the lexical argument structure is not preserved; secondly, it results in PRO being governed (Kuno postulates that the 'o' causative involves Equi-NP, which becomes a case of control in GB terms, with PRO as the subject of the embedded clause). The second of these objections could be met if one were to depart from Kuno's analysis and claim that both 'o' and 'ni' causative have the same underlying structure, the one Kuno postulates for the 'ni' causative, which does not involve control. There is, however, no such answer to the first objection. Anyone who wants to handle this construction within the GB framework will thus be unable to take over Kuno's analysis as it stands.

As was stated above, the structure which results from predicate raising is essentially indistinguishable from that of a straightforward simplex sentence. Thus, here as well as in the lexical analysis, the question arises as to the source of the impossibility of passives that promote what was originally the object of the embedded verb. Kuno proposes a principle of Japanese grammar according to which constituents that have originated in embedded positions cannot be promoted in passives—even when there is no evidence in the final structure as to their provenance. This principle is in fact intended as a means of accounting for the lack of ambiguity in the meaning of passivized causatives that was noted above: because Kuno analyses the 'o' causative as a case of Equi-NP, only in the case of the 'ni' causative does the causee originate in the embedded clause and thus run up against the proposed principle. However, the same principle clearly covers the embedded object also. Despite the empirical coverage of this account, I think it must be agreed that an account that did not require this principle would be preferred.[7]

[7][Kuno 73b] claims that this principle—that passivization cannot promote NPs that started out as embedded constituents—holds good for exceptional case marking structures as well. He notes that sentences such as the following are grammatical:

Tanaka-wa Yamada-ni tensai da to sinzi -rare-ta
Tanaka-TOP Yamada by genius be CMP believe PASS PST

However, he claims that all such sentences are instances of the Japanese adversity passive, in which the constituent that ends up as the subject of the sentence (here marked as a topic) need not be an argument of the passivized verb. As evidence for this analysis he cites the fact that the subject of a sentence such as the one above cannot be inanimate, which is a restriction placed on adversity passives but not on pure passives. This analysis is not universally accepted, however: [Saito 82] cites [Kuno 73b] but disagrees. Unfortunately he does not go on to explain the ungrammaticality of such sentences when the promoted NP is inanimate. One could, however, appeal to the fact, noted by Kuno himself

3.3 Incorporation

As noted in the previous section, the type of predicate raising analysis that has been dominant in the literature on the Japanese causative cannot be reconciled with the GB framework, chiefly because of the violation of the Projection Principle that it involves. Perhaps the best known and currently most influential of the analyses of this type of construction within the GB framework is the incorporation analysis of [Baker 85], in which he treats Japanese as one instance of a widespread phenomenon of verb incorporation.

In this analysis, the embedded verb moves out of an embedded S' and is incorporated into the matrix verb—the causative morpheme—leaving behind a trace, in accordance with the Projection Principle. This trace is not able to assign case. By virtue of processes that I shall not go into here, the movement of the lower verb, while it does not trigger any clause pruning, nevertheless results in the transparency to government of the embedded S'. The complex verb is therefore able to assign accusative to the embedded subject. How the embedded object gets case is still, of course, in question. Baker first suggests that is has some kind of 'inherent' case (p257). Later he rejects this initial suggestion, proposing instead that the embedded verb reanalyzes with the head of its NP object before moving, where 'reanalysis' can be described roughly as 'Noun Incorporation, but without the morphological incorporation' (p406).[8]

The most obvious problem with this account is that there is no reason to suppose that the head of the embedded object has been reanalyzed with the embedded verb. The clearest way to see this is to consider a construction in Japanese that could plausibly be considered a case of reanalysis[9]:

(34) Mitiko-wa eigo -no benkyoo-o si-ta
TOP English-POSS study -ACC do-PST
"Mitiko studied English"

(35) Mitiko-wa eigo -o benkyoo (*-o) si-ta
TOP English-ACC study (*ACC) do-PST
"Mitiko studied English"

(36) Mitiko-wa benkyoo(-o) si-ta
TOP study -ACC do-PST
"Mitiko studied."

Sentence (35) could be seen as the result of reanalysis having applied to the structure that directly underlies (34). The head of the NP 'eigo-no benkyoo' is reanalyzed with the verb, and therefore does not take case. The available accusative case can then be assigned to the NP that started out as a modifier—'eigo'. This accounts for the fact that 'eigo' is now marked with the accusative marker 'o', while 'benkyoo' can no longer be so marked.[10]

Note, however, that in a causative sentence the embedded object takes the accusative marker 'o' (See, for example, (3) above). Note further that in (35) the NP 'eigo' is marked with the accusative

([Kuno 78]), that Japanese tends to disfavor the promoting of inanimates over animates, even in pure passives.

[8]It should be noted that Baker is not talking specifically about Japanese, but he does make it clear that considers this analysis to cover Japanese, among other languages (p259).

[9]I do not wish to claim that syntactic reanalysis is necessarily the best way to account for this type of construction, merely that a case can be made for it, whereas I do not think that a case can be made for the instance of reanalysis that Baker hypothesizes.

See [Dubinsky 85] for a good account of this construction.

[10]In informal speech it is possible to omit certain case markers, including the accusative marker 'o'. This kind of alternation should not, however, be accounted for at the syntactic level.

marker 'o', rather than the posposition 'no', which suggests strongly that it is receiving accusative case from some verb. Under Baker's account it would then be expected that causatives in which the embedded object is a complex NP with a modifier would be ungrammatical: the head of the object NP would pass the case filter, having been incorporated or reanalyzed, but that would still leave the original modifier out in the cold. This expectation of ungrammaticality is not met in Japanese:

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(37)  Mitiko-wa  Taroo-ni  eigo   -o   benkyoo-s -ase-ta
              TOP        DAT English-ACC study  -do-CS -PST
      "Mitiko made Taroo study English."
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One might then attempt to pursue Baker's line of analysis by proposing that noun incorporation or reanalysis may take place repeatedly until all Ns have been taken into the verb. However, Baker himself points out that double incorporations are rare in any language, offering the following as a descriptive generalization (p. 164):

> A single item cannot morphologically identify two NPs in the same way.

('Morphological identification' is a cover term for agreement, case assignment, and incorporation: for details see [Baker 85, Ch.2].) Japanese would constitute a marked case, then, especially since a theoretically unlimited number of incorporations would have to occur when the embedded object had a stack of possessors. Given that there is no overt evidence for incorporation or reanalysis, this approach does not seem promising.[11]

Further evidence against Baker's analysis is provided by causatives where the embedded verb is one of the small class that mark their objects with the dative case:

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(38)  Mitiko-wa  Taroo-ni  Hanako-ni  aw  -ase-ta
              TOP        DAT        DAT meet-CS -PST
      "Mitiko make Taroo meet Hanako."
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The fact that the embedded object appears in the dative case suggests strongly that the case it is assigned is dependent on the embedded verb. There is no natural way to state this in an account like Baker's. Thus all the evidence in Japanese suggest that the case of the embedded object is assigned by the embedded verb in some way, and the fact that Baker's assumptions do not allow for this possibility (p161) severely hampers his ability to deal with the data from Japanese.

3.4 Parallel Structure

There is one other well-known analysis within the GB framework that addresses the type of construction at issue here. This is the 'parallel structure' analysis that was proposed for Romance causatives in [Zubizarreta 82] and later in [Zubizarreta 85]. Moving away from his earlier lexical analysis, [Miyagawa 84] attempts to analyze the Japanese causative in terms of 'parallel structure.' As Miyagawa does not go into many of the details of this analysis, in this section I shall refer mainly to [Zubizarreta 85], referring to Miyagawa's paper only when he makes specific claims about Japanese.

[11] It could perhaps be argued that sentences like (35) are examples of incorporation, as opposed to causatives, which are examples of reanalysis, and that this explains the differences between the two constructions. But this still seems an ad hoc explanation. There are no other instances of such reanalysis in Japanese, which lacks the possessor raising construction of Korean. And it remains true that there is no positive evidence for reanalysis in the causative construction.

Zubizarreta proposes that Spanish and French causative sentences are associated simultaneously with two structures: one monoclausal, the other biclausal. The existence of these parallel structures makes it possible, Zubizarreta claims, to account for the apparently idiosyncratic properties of causatives.

Firstly, she argues that in a simple sentence the following condition (her 28) has to be satisfied:

> If the head of the VP has a lexically designated external argument, the VP must be predicated of this argument.

And since semantic predication is read off the syntactic level of representation, it follows that the lexical external argument of verbs must be obligatorily realized in the syntax, unless inheritance of the external argument is blocked, as in the case of passives. However, when parallel structures are associated with a sentence, this condition applies only to the monoclausal structure. This is intended to explain the grammaticality of sentences such as (39):

(39) Pierre a fait tracer les plans (par son associe)
made design the plans (by his partner)

where the 'par' PP is not required, the meaning of the sentence without it being 'Pierre made somebody design the plans.'

Secondly, Zubizarreta proposes that the binding principles apply to the unreduced structure. This provides an explanation of the impossibility of the kind of passive shown in (30):

(40) *La maison a ete faite construire a/par Casimiro
the house was made construct to/by Casimiro
"The house was made to construct by Casimiro"

In the unreduced structure the trace of 'la maison' is contained within an embedded S, which constitutes its minimal governing category. There is nothing in this S to bind it, and the sentence falls foul of principle A of the binding theory (anaphors must be bound within their minimal governing category). [Miyagawa] follows Zubizarreta in claiming that the binding conditions apply to the unreduced structure, citing the following example, which would be ruled out by binding condition B if this were to apply to the reduced structure:

(41) tanaka-sensei-ga boku-ni kare-o adana -de
prof -NOM me -DAT him -ACC nickname-by
o-yob-ase-ni-naru
call -CS -HON
"Professor Tanaka makes me call him by his nickname."

The attraction of this analysis presumably lies in the fact that it embodies in a very direct way the obvious fact that these constructions share properties with both simplex and embedding structures. However, although it does describe this behaviour, it cannot be considered an explanation of it. Neither Zubizarreta nor Miyagawa give any principled reason why certain principles apply to the reduced structure (Predication, Case-marking) and others to the unreduced structure (Binding conditions). Under their account the reverse situation would be just as natural.

As well as this basic, and I think debilitating weakness, there are other problems with the accounts offered by Zubizarreta and Miyagawa. In French and Spanish, it is impossible to embed passive sentences under the causative:

(42) *Pierre a fait (etre) lu(s) ces passages par Jean.
made be read these passages by
"Pierre made these passages be read by Jean."

In order to account for this, Zubizarreta proposes a (presumably universal) Principle of Morphological Nonredundancy (her 83):

> Attachment of redundant morphology is prohibited.

Since the function of passive morphology (blocking of the external argument) can be accomplished by the causative 'affix', its presence is redundant in the very particular sense that brings it under the sway of the above principle, and sentences such as (42) are thus ruled out. In Japanese and Korean, however, causatives with embedded passives are, if rare, perfectly grammatical. The Principle of Morphological Nonredundancy can be maintained, nevertheless, since there is no evidence that the external argument of the embedded clause is ever 'blocked' in these languages. Although the embedded subject is not always present in the string, both Japanese and Korean are extremely generous in allowing deletion of pronouns that can be recovered from context, and there is every reason to assume that that is what is happening in such cases. But if so, then it seems that 'Semantic Predication' is applying to the unreduced, rather than the reduced structure, in Japanese and Korean. In this respect, Zubizarreta's account appears not only stipulative, but far from general.

Miyagawa does not discuss this aspect of the analysis in either of his papers. He does, however, bring up another facet of the Japanese causative that distinguishes it from those of French or Spanish: namely, the fact that the complex verb in Japanese is a single morphological word. In keeping with the spirit of his earlier work ([Miyagawa 80]) Miyagawa suggests that the parallel structure analysis allows for—in fact, 'assumes'—the formation in the lexicon of the complex verb. From this complex verb are projected the two parallel structures. In Zubizarreta's account, the dual structure is projected from the matrix verb / causative affix: that is to say, that as well as being some kind of affix, this entity has, simultaneously, the subcategorization of a verb that takes a propositional argument. These two types are well-motivated separately in the relevant languages, which is part of what makes this analysis seem initially attractive. However, the subcategorization that Miyagawa must be assuming for the complex verb in Japanese is such that it does not simply take a propositional argument: half of the verb itself—the verb stem that we have been referring to as the embedded verb—has to be contained within this argument. Such a subcategorization would be unique in Japanese, and a priori implausible.

3.5 Multi-predicate clauses

There is one other approach to the causative that should be discussed. This is the approach of Relational Grammar. In particular, I shall outline very briefly in this section the analysis of [Dubinsky 85].[12] I shall assume that the reader is familiar with the Relational Grammar framework and the associated terminology.

Dubinsky follows the lead of [Davies & Rosen 86] in treating the causative as monoclausal, rather than as having two clauses initially which collapse into one finally. He points out that the latter type of analysis has certain drawbacks. The notion of 'predecessor' requires a complex definition in order to ensure that the final arcs of the embedded clause can be considered immediate predecessors of the union stratum; the notion U(nion) relation, acquired by the embedded predicate, has to be introduced to handle only this case; the G(rammatical) R(elation) borne by the embedded clause must be stipulated to disappear in the union stratum. Further, Dubinsky points out that the biclausal analysis cannot predict the chomage of embedded nominals. He gives the hypothetical example of a 'no-revaluation' union (one in which the embedded 1 is not revalued to 2 or 3): the

[12] I am grateful to Professor C. Rosen of Cornell University for providing me with a copy of this thesis, as well as other documents.

biclausal analysis fails to predict that it is always the embedded 1 that is put en chomage in such cases.[13]

In [Davies & Rosen 86] it is proposed that all nominals and predicates are dependents of the same clause. The embedded predicate heads a P-arc in the C1 stratum; the causative predicate does not head any arc in the C1 stratum. Further, the subject subcategorized for by the causative predicate does not bear a GR in any pre-union stratum. The first stratum in which any given predicate heads a P-arc is defined as a P-initial stratum. The stratum (or strata) in which a given predicate heads a P-arc is defined as its P-sector. In a causative with one layer of embedding the embedded verb heads a P-arc in the inner P-sector, and the causative verb/affix heads a P-arc in the union stratum, which is, in the simple case, the final P-sector. The Stratal Uniqueness Law is extended to apply to P-arcs as well as term arcs. Thus in a causative the predicate of the inner P-sector is put en chomage by the causative predicate.

Dubinsky notes that verbs generally impose restrictions on their R(elational) N(etwork)s. Although for most verbs these restrictions are limited to relational requirements on initial strata, in some cases restrictions can extend beyond the initial valence. He then proposes that a verb's RN requirements may refer to the co-ordinates of any arc. Verbs that are not union predicates would be specified so that their P-arc begins in the initial stratum; verbs that are optionally union predicates would have the first co-ordinate of their P-arc left unspecified; predicates such as '-sase', which can only appear as union predicates, would have their P-arcs specified to begin in some post-initial stratum.

As for the grammatical relation taken on by the subject of the inner P-sector, Dubinsky cites [Rosen 85] in claiming that the possible RNs for unions vary along the following two parameters:

1. The embedded 1 may be revalued or not.

2. If the embedded 1 is revalued, it may be revalued as a 2 or as a 3.

In Japanese, all causatives are parameterized for 1–2 revaluation: i.e. the embedded subject is revalued as a direct object. However, in 'ni' causatives the 1–2 revaluee also undergoes 2–3 retreat. This retreat is optional when the embedded verb is intransitive, although it must be authorized by the semantic feature [+protagonist control] on the embedded predicate. When 2–3 retreat is invoked, it has the special meaning 'allow'. When the embedded verb is transitive, the retreat of the revaluee is mandatory, according to the following well-formedness constraint of Japanese (p129):

> Direct Object Constraint
>
> If nominal X and nominal Y head P-initial 2-arcs in clause b,
> AND
> If X and Y are acting 2s of clause b,
>
> then the RN containing X and Y is ill-formed.

An acting term is one that heads a 1-, 2-, or 3-arc in some stratum and does not head any distinct term arc in a subsequent stratum. Thus this well-formedness constraint is presented as an alternative to the 'double-o constraint.' The other way that a causative that embeds a transitive can avoid conflicting with this constraint is for the causative to passivize. In this case the 1–2 revaluee (the causee) is promoted to 1, and the only acting 2 remaining will be the object of the inner P-sector.

[13]The Korean causative where the causee is marked with the subject marker 'ka' is an instance of a 'no-revaluation causative.' [Gerdts 86] does not, however, adopt the monoclausal type of account suggested in [Davies & Rosen 86] and [Dubinsky 85].

Dubinsky's account handles the Japanese data well. He does not explain, however, why 2–3 retreat gives rise to the meaning 'allow' to the exclusion of the meaning 'make' only when the embedded verb is intransitive. As was mentioned in Section 2.1., causatives of transitives are ambiguous between these two readings despite the invariant 'ni' marking of the causee. More seriously, the Direct Object Constraint that Dubinsky appeals to seems entirely arbitrary, related to no other fact in the language. In particular, there is no suggestion that this constraint has anything to do with the union of the two predicates into a single word, and the absence of double accusative verbs in Japanese.

4 A TAG Analysis

4.1 The structure of the Japanese causative

In this section I shall give an analysis of the causative in Japanese within the framework of the TAG formalism of [Joshi Levy & Takahashi 75], [Joshi 83], and [Kroch & Joshi 85].[14] This analysis aims to avoid the theoretical difficulties that would be involved in reconciling the predicate-raising analysis with a GB-based approach, and also the unrevealing machinery required for the 'double structure' account. At the same time it does more justice to the data than the incorporation analysis of [Baker 85].

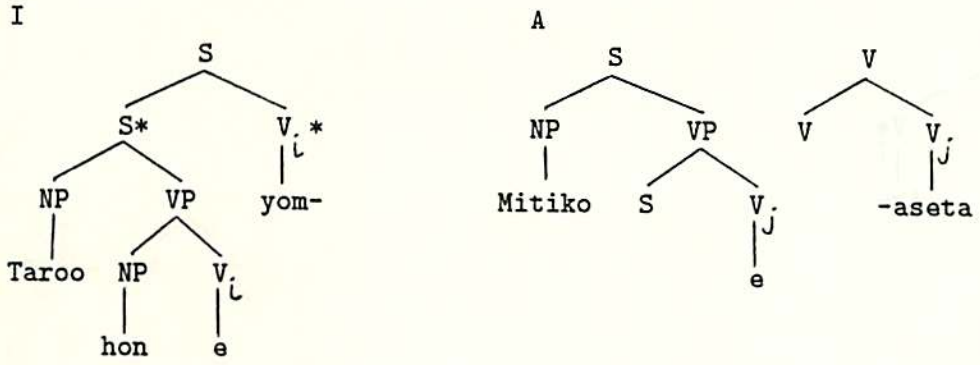
I shall assume all aspects of the TAG formalism contained in the papers just cited, and also the extension of multi-component adjoining that was worked out in [Joshi Levy & Takahashi 75] and used for the analysis of extraposition in [Kroch & Joshi 86]. All that is required here as far as the formalism is concerned is an explicit statement of how multi-component adjoining is to be understood when repeated adjunction takes place.

Firstly, let me show the shape of the elementary trees that are to be used in the derivation of the sentence (3), repeated here as (43)—ignoring, for the moment, the question of case-marking:

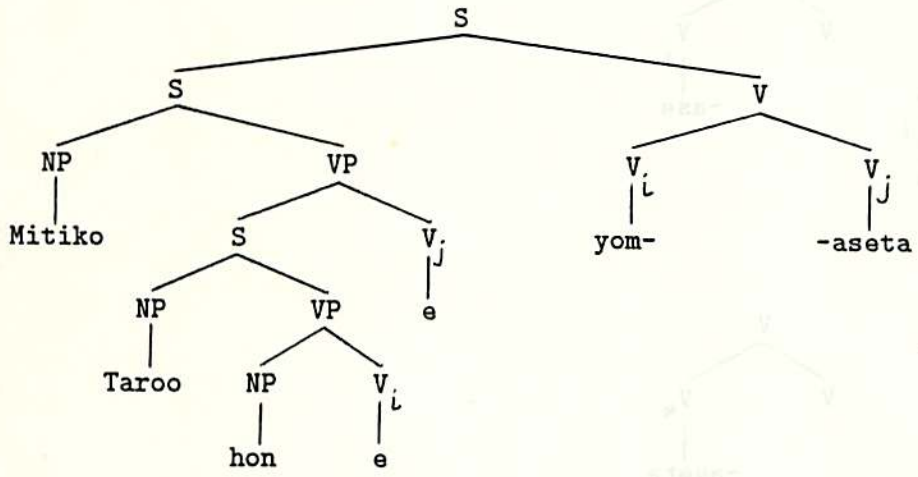
```
(43)  Mitiko-ga  Taroo-ni  hon -o   yom -ase-ta
             NOM       DAT      ACC read-CS -PST
      "Mitiko made Taroo read the book."
```

Nodes at which adjunction takes place are marked *.

[14] In this paper I am not taking advantage of the work of K. Viyay-Shankar (PhD Dissertation, in preparation) which allows a superior account of adjunction constraints. The analysis in this paper can, however, be stated concisely in the version of the formalism he has worked out.



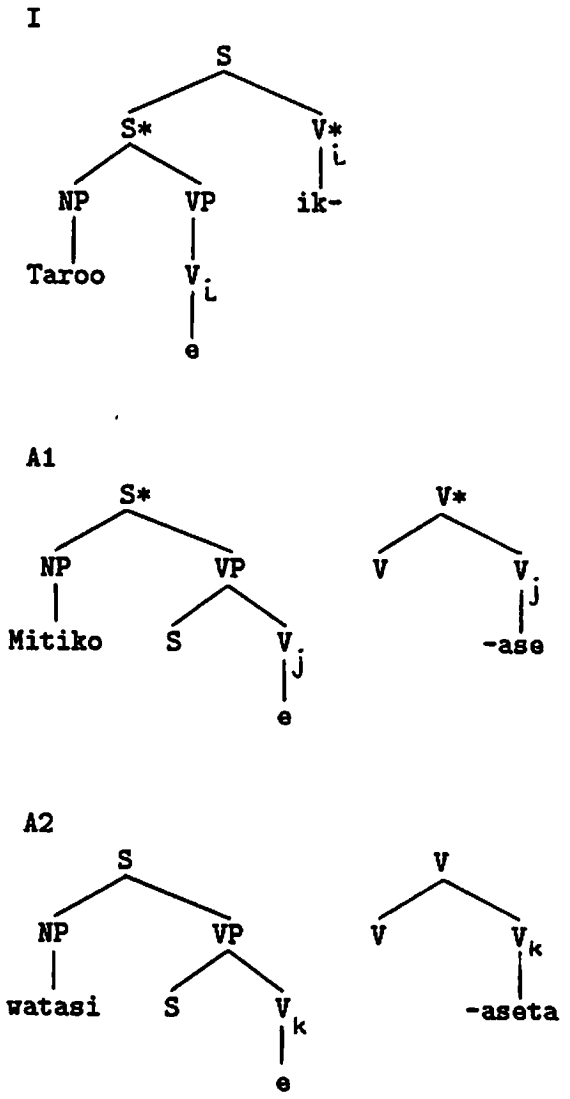
The result of adjunction is shown below:



In all the sentences we have considered so far, there has been only one level of embedding. It is possible, however, to have 'double' causatives, although the construction is generally judged awkward. (Triple embedding is judged by native speakers to be totally incomprehensible, due, as many scholars have noted, to the complex center-embedding structure that results.) (44) is an example of a double causative:

(44) watasi-wa Mitiko-ni Taroo-o ik-ase(-sase)-ta
I TOP DAT ACC go-CS -CS -PST
"I made Mitiko make Taroo go."

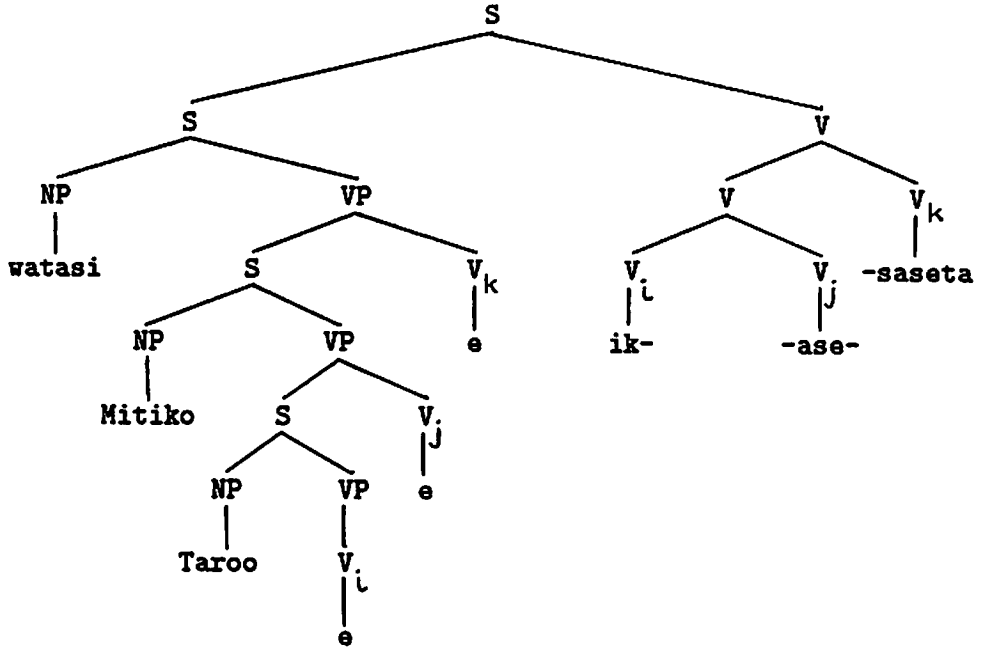
(The parentheses around the causative morpheme are meant to indicate that most speakers do not actually double the morpheme. It seems reasonable to consider this a deletion that takes places in some morphological component subsequent to the syntax, as has generally been done.) In order to derive this type of sentence in a TAG we need two sets of auxiliary trees:



In [Kroch & Joshi 86], it was enough to define adjunction of a set of trees as 'the simultaneous adjunction of each of its component trees to a distinct node (address) in an elementary tree.' For our case, we will need to define adjunction of a set of trees into another such set. This can be done as follows: adjunction of a set of trees into another set of trees is the simultaneous adjunction of each of the component trees of the former set to a distinct node in any tree in the latter set (with the proviso that tree sets may only be adjoined into underived elementary structures.) This definition will cover all cases of adjunction, even those not involving multi-component sets, if single trees are thought of as singleton sets (David Weir, personal communication).[15]

Given this definition, the derivation of (44) can proceed as follows: first the auxiliary set A2 is adjoined into the auxiliary set A1 at the nodes marked *. Then the resulting set is adjoined into the initial tree I. The final structure looks like this:

[15] I am indebted to David Weir for explanation of this and other aspects of the TAG formalism.



The foregoing derivations show the structure that I propose for the Japanese causative, and how it can be obtained in a TAG. As can be seen, there is some similarity with Baker's approach, in that I assume that the verb is raised out of its position in the embedded clause, leaving behind a trace, and that there is no pruning of structure. The similarity is far from surprising given that the TAG formalism seems in so many other cases to capture GB type analyses with considerable naturalness. Differences do remain, however. Firstly, Baker assumes that in the 'unmarked case' the causative verb subcategorizes for an S'. If this is so, then Japanese constitutes a marked case, since the embedded clause is certainly not an S'. It cannot contain a complementizer, in contrast with constructions such as that in (45):

(45) kare-wa Mitiko-ga i -na -i to i -tta
he TOP NOM be-NEG-PRES CMP say-PST
"He said that Mitiko wasn't there."

Further, the embedded clause can contain neither a tense-bearing element nor a verbal negative. Thus the S complement is to be interpreted as a small clause.

Secondly, and more importantly, this approach differs from that of Baker in the assumptions that are made about case assignment. As stated above, Baker assumes that the trace of the embedded verb cannot assign case. In this he concedes a point to lexicalism that it is unnecessary to concede. I have already indicated evidence that suggests that this assumption constitutes a problem for an analysis of the Japanese data: the fact that the embedded object clearly gets case from some verbal element, and that this case varies according to the case usually assigned by the embedded verb. I shall therefore assume that case is assigned to the embedded object by the verb that originates as its clausemate, via the trace.

It is not only the case of the embedded object that must be accounted for, but also the case of the embedded subject—the causee. In this paper I shall assume that there are in effect two morphemes '-sase', one of which is associated with the 'permissive' reading and assigns the dative case, the other of which is associated with the 'coercive' reading and assigns the accusative case.

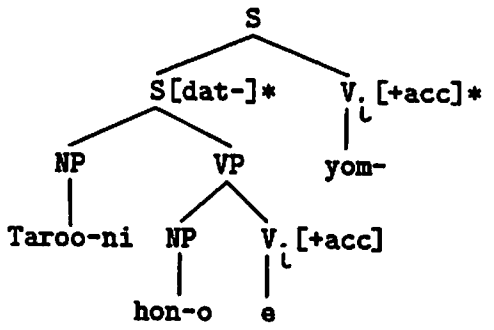
Otherwise the structure associated with the two is the same. This is similar but not identical to the accounts of [Kuno 73a] and [Tonoike 78], where it is proposed that there are distinct structures, one of which involves Equi-NP.

We turn now to how the case-marking of the causee can be handled in the TAG. Let us assume that elementary trees are generated with case-markers. In the simple case, the relationship between case-marked element and case-assigner can be stated within the elementary tree: this will be the case for simplex sentences. For the kind of exceptional case-marking that we find in the causative, case-assigner and assignee evidently do not occur in the same elementary tree. We can deal with this by means of a constraint associated with the node where adjunction takes place, indicating that the tree that is adjoined must contain some element able to assign the required case. An example of how this could be worked out is given below. The sentence for which this is the derivation is (43), repeated here as (46):

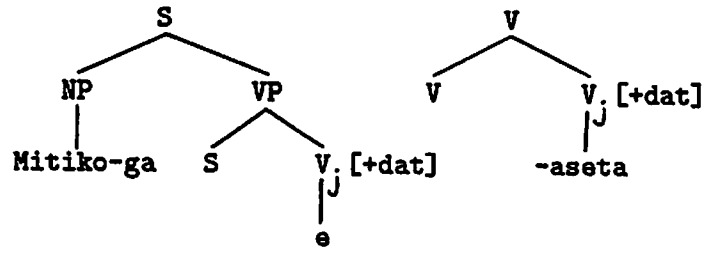
(46) Mitiko-ga Taroo-ni hon -o yom -ase-ta
NOM DAT book-ACC read-CS -PST
"Mitiko made Taroo read the book."

As before, nodes at which adjunction takes place are marked *. Further, [dat-] on an S node represents the constraint that the tree to be adjoined must contain some element able to assign dative case; [+dat] on a V node represents the information that the V, via the trace with which it is co-indexed, assigns dative case.

I



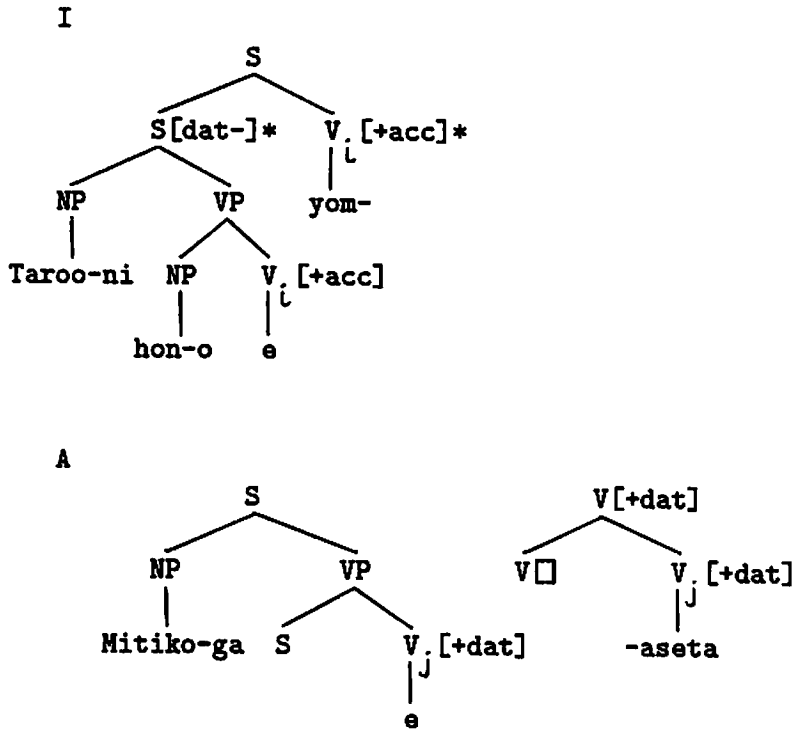
A



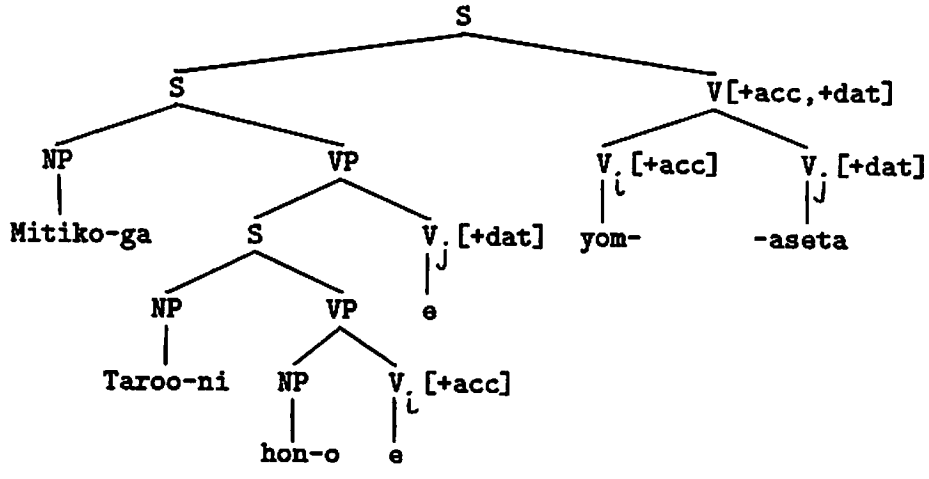
The 'double-o constraint' could be captured as follows.[16] We have represented the fact that a verb is co-indexed with a trace assigning a certain case by attaching a feature to the verb node. A

[16] I am indebted to K. Vijay-Shankar for discussion of these points.

V node that dominates other V nodes inherits these features from its daughters. In the case of the component V trees that are found in the auxiliary tree sets for the causative, the features of the foot V node is unspecified. It will become specified when adjunction takes place, and the feature will then be passed up to the mother. For example:



The result of adjunction is shown below:



We can then check these features on the V when adjunction takes place. We can specify that a derivation that results in two [+acc] features accumulating on the same verb node will fail. This instantiates the principle that a single verb—and the complex verb is single in the relevant sense

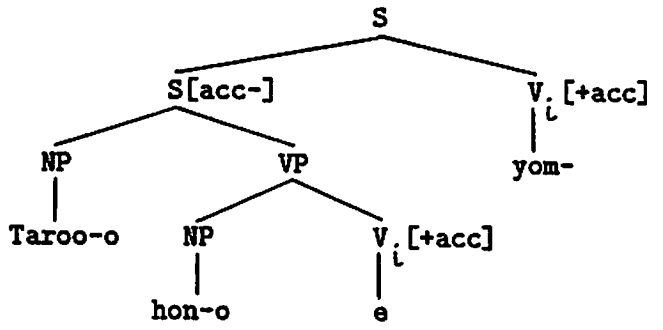
that all of its components can be traced back to a single V ancestor—can assign only one accusative case. In this way, the 'double-o constraint' is reduced to a general property of verbs in Japanese.

There is, however, a more economical way to capture this principle in a TAG. Consider first the ungrammatical (47):

(47) *Mitiko-ga Taroo-o hon -o yom-ase-ta
NOM ACC book-ACC read-CS-PST
Intended reading: "Mitiko made Taroo read the book."

The initial tree that would be needed to generate this sentence would have to look like this:

I



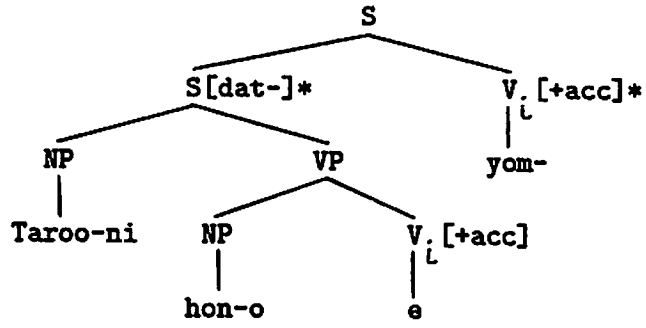
Just from the information in this tree it is possible to tell that no structure including this tree can be associated with a grammatical sentence. The verb 'yom' is a stem that must be adjoined to something that will result in a full word (this information would be available within the tree in a less sketchy system than the one I am outlining.) At the same time, whatever 'yom' is adjoined to will need to be able to assign accusative case to the causee, as is encoded in the feature on the S. This will inevitably result in a single verb assigning two accusative cases. Thus all the information that is required to rule out this elementary tree is available within it, and it can be excluded from the grammar.

The type of sentence that would seem impossible to rule out on the basis of local information is one which involves double embedding:

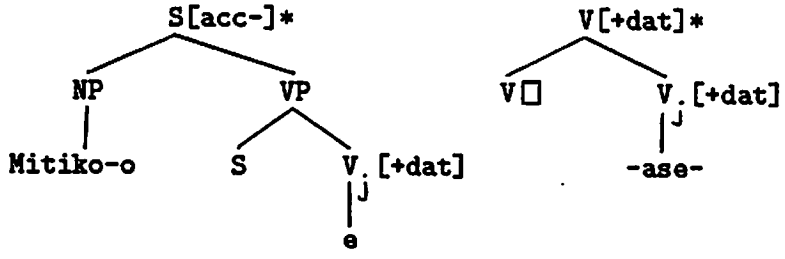
(48) *watasi-wa Mitiko-o Taroo-ni hon -o
I TOP ACC DAT book-ACC
yom -ase(-sase)-ta
read-CS -CS -PST
"I made Mitiko make Taroo read the book."

Here the initial tree must be in the grammar, and the auxiliary tree sets both seem irreproachable in themselves:

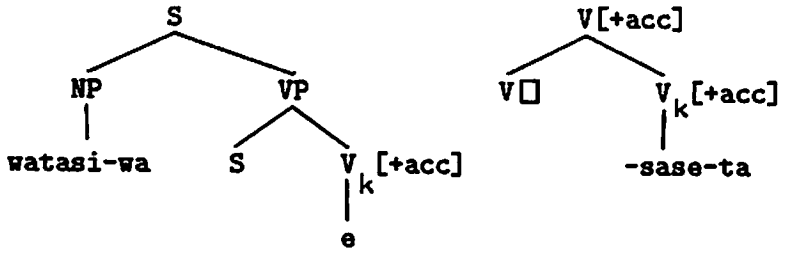
I



A1



A2



This is the kind of case where it may seem that we have no choice but to appeal to the idea of a V node inheriting case features from the V nodes it dominates, and the derivation being ruled out if ever more than one [+acc] feature accumulated. However, consider the following three sentences:

(49)a. watasi-wa Mitiko-ni Satoo-o ik-ase(-sase)-ta
I TOP DAT ACC go-CS CS PST

b. watasi-wa Mitiko-ni Satoo-ni ik-ase(-sase)-ta
I TOP DAT DAT go-CS CS PST

c. *watasi-wa Mitiko-o Satoo-ni ik-ase(-sase)-ta
I TOP ACC DAT go-CS CS PST

"I made Mitiko make Satoo go."

Contrary to what we might expect from what has been said so far, native speakers judge (49)c to be ungrammatical in the reading given. (Even those who find (49)a and (49)b awkward report that (49)c is significantly worse.) This effect can easily be obtained in a TAG by excluding from the inventory of trees the auxiliary set that was given as A1 above, i.e. the auxiliary set where the causee NP is marked with the accusative case. If this tree is excluded, we need do no more to exclude the ungrammatical (48). Thus the machinery for feature passing outlined above is in fact unnecessary: the effects of the principle that verbs in Japanese can assign no more than one accusative case can be captured in the TAG using only local information.

4.2 Causatives without verb raising—Korean

In the previous section an analysis of the Japanese causative was given in which the embedded verb was moved out of its clause, and all the verbal morphemes in the sentence clustered under a single V node. In order to achieve this effect in a TAG, use was made of the possibility of adjoining multi-component tree-sets into other multi-component tree sets. Without this mechanism, the analysis given above would be impossible to state in a TAG. While this type of adjunction is well defined, it should be noted that allowing it increases both both the weak and strong generative capacity of the grammar. For this reason alone, it is important to consider whether there is any alternative analysis of the data that does not require this mechanism.

In the case of Japanese, the one piece of evidence that makes it hard to see a viable alternative to an analysis producing a single V node is the fact that causatives, like other, simple verbs, may assign only one accusative case. Unless the morphemes that go to make up the complex causative verb are brought together in a way that has syntactic consequences, this fact can only be dealt with by stipulation.

In Korean, as was noted above, it is not entirely clear whether or not the causative verbal complex forms a single morphological word. What is important to realize for the Korean causative is that even if for some speakers the causative verbal complex does constitute a single morphological word, this has no syntactic consequences. There is no parallel to the 'double-o constraint' in Korean: as was stated above, the case-marking on the causee is independent of the transitivity of the embedded verb. This cannot be used to argue that the structure of the Korean causative is necessarily different from that of the Japanese equivalent, since morphologically simple verbs in Korean may mark more than one argument with the accusative marker.[17] However, given the lack of any positive evidence for the formation of a syntactically single word, the structure that I would propose for the Korean causative is essentially the same as that proposed for German by [Kroch & Santorini 87], where there is no string-vacuous verb raising. This structure would hold even for a speaker for whom the causative complex constituted a single morphological word, the most appropriate analysis then being that we are dealing with the kind of mismatch between the syntax and the morphology that has been discussed under the term 'bracketing paradox'.

Interestingly, the S complement in the Korean causative, while similar to its Japanese counterpart in containing no tense morpheme, seems to be not quite so small a small clause. As stated above, it can contain a negative morpheme, independently of the matrix verb. Further, when the causee is marked with the nominative marker '-ka', adverbs contained within the embedded clause are no longer ambiguous in scope: they are construed as taking scope only over the embedded clause. This is the same effect that is found in the complement of exceptional case-marking verbs, both in Japanese and Korean. The subject of the complement of these verbs can appear either in the accusative or the nominative case. In the former situation, adverbials contained within the

[17]There is asymmetry in the behavior of the two NPs marked as object in such sentences. See [Gerdts 86] for discussion.

complement clause are ambiguous in scope, in the latter, they take scope only over the complement clause. These data in Japanese constituted evidence for [Kuno 73b] that when the embedded subject is marked with the accusative case it is moved out of the complement clause into the matrix. However, we have seen that the same type of ambiguity is found in the causative construction of both Japanese and Korean, and also in German ([Kroch & Santorini 87]), and have indicated that such scope behavior is consistent with the adverb being generated in the complement clause.

5 Problems

5.1 The passive

It was noted at the beginning of this paper that both Japanese and Korean causatives can be passivized. It was further noted that in Japanese, where the 'ni' and the 'o' causatives have somewhat different connotations, which can be (very roughtly) categorized as 'permissive' and 'coercive' respectively, the passivized causative has only the interpretation associated with the 'o' causative. This suggests that only the 'o' causative can passivize. This is not particularly surprising, given that verbs that take dative objects in Japanese do not passivize either. This presents no problem for our analysis as long as we are dealing with causatives where the embedded verb is intransitive. When we turn to causatives with an embedded transitive verb, and where the case marker on the causee can only be 'ni', we find that, contrary to what we might have expected, these have grammatical passives associated with them. Furthermore, while the interpretation of the active causatives with embedded transitives is ambiguous between the 'permissive' and 'coercive' readings, the interpretation of their passive counterparts is unambiguously 'coercive'.

One possible tack would be to consider the 'ni' that appears in the causative of transitives ambiguous between a true dative marker and a suppletive alternant of 'o'. But this would be to analyze the causative verbal complex as assigning two accusative cases, whereas I claimed above that the 'ni'/'o' alternation should simply fall under a general rule that verbs in Japanese assign only one accusative case. One might then claim that the causative conforms to a more superficial version of this rule: it may only mark with 'o' one of the NPs to which it assigns accusative case. But this would leave unexplained the judgements on sentences such as (50), where one of the relevant NPs is marked as a topic, (51), where it appears as the focus in a pseudo-cleft construction, and (52), where it does not appear in the string at all[18]:

(50) kono hon -wa kodomo-ni /*-o yom -ase-ta ga ...
this book-TOP child -DAT/*-ACC read-CS -PST but
"(I) made the child read THIS book, but ...

(51) kodomo-ni /*-o yom -ase-ta no -wa kore da
child -DAT/*-ACC read-CS -PST one-TOP this is
"The one that (I) made the child read is this."

(52) watasi-wa kodomo-ni /*-o nusum-ase-ta
I -TOP child -DAT/*-ACC steal-CS -PST
"I made the child steal (something)."

There is another tack that one could take in analyzing the passive of causatives with embedded transitive verbs, and that would avoid the necessity of assuming that 'ni' can function as an alternant of 'o' as a marker of the accusative case. One might propose that 'o' causatives with embedded

[18]Example (52) is from [Kuroda 65].

transitives are impossible because of the restriction against single verbs assigning more than one accusative case, but that there is no reason why this should prevent the associated passives, where one of the accusative cases is never assigned. This is essentially the approach of [Dubinsky 85]. Such an analysis can account for the non-ambiguity of the passive, as Dubinsky points out. However, it leaves mysterious the ambiguity of the active causative with 'ni', for which there is but one derivation. Dubinsky does not discuss this problem. [Tonoike 78], whose analysis parallels Dubinsky's in proposing that the 'ni' that occurs with transitives is syntactically unambiguous, claims that "The alleged ambiguity of causative sentences with transitive complements ... is not really an ambiguity between the two causatives but a pragmatic ambiguity quite independent of the distinction of the two causatives." The notion of 'pragmatic ambiguity' is not further discussed.

Taking seriously the ambiguity of causatives with embedded transitives leads to a different approach. I suggest that the '-sase' that is given a coercive reading and that marks the causee with 'o' behaves in a way very similar to causatives in French (and other Romance languages). That is to say that although the causative verb/affix assigns accusative case to the causee when it can, if the embedded verb already assigns accusative case, the causative verb/affix assigns dative case to the causee. The assumption that the '-sase' which assigns the accusative case when the embedded verb is intransitive behaves in this respect like French 'faire' explains the ambiguity of the Japanese causative when transitive verbs are embedded, given the existence of the other '-sase' morpheme that always assigns dative case. This approach also does not complicate the description of the passive: one may simply say that the 'o' causative passivizes, unlike the 'ni' causative, which thus behaves like other verbs , such as 'a-u', that take dative objects.

This last approach and that of Dubinsky make different predictions for one other class of cases. It was mentioned in Section 2 that the 'ni' causative requires that the embedded predicate constitute an action that is controllable by the causee. If the causative morpheme that occurs with embedded transitives is ambiguous between the 'o' and 'ni' causatives, we would expect that causatives embedding transitive verbs that denote a non-controllable action would be grammatical. If causatives that embed transitives are unambiguously 'ni' causatives, then we would expect that no grammatical causatives could be formed from such verbs. This is the class of cases used in the debate between Kuno ([Kuno 78]) and Tonoike ([Tonoike 78]). Kuno proposes two different derivational histories for the causatives of transitives, based on his assumption of two different deep structures for the 'o' and 'ni' causatives, thereby accounting for their ambiguity. Tonoike claims that there are no grammatical causatives embedding verbs denoting a non-controllable action, citing such examples as (53):

(53) *Taroo-ga Hanako-ni Ziroo-no si -o yorokob-ase-ta
NOM DAT POSS death-ACC rejoice-CS -PST
"Taroo made Hanako rejoice over Ziroo's death"

Kuno, however, while conceding that the examples given by Tonoike, including (53) above, are unacceptable, counters with grammatical examples such as (54):

(54) Sonna koto -o it -te, kodomo-ni
such thing-ACC say-GER child -DAT
syoorai-no yume -o usinaw-ase-te simat-ta
future -POSS dream-ACC lose -CS -GER end -PST
"(He) caused the child to lose his dream for the future by saying such a thing."

He concludes from such examples that the evidence supports his analysis of causativized transitives as being ambiguous between the 'o' and the 'ni' causative. [Dubinsky 85] acknowledges Kuno's

examples such as (42) above, but does not seem to consider them a problem for his analysis, commenting '...we would want to say that the *context* has assigned [+protagonist control] to the predicate, authorizing 2–3 retreat in this way.' It is not obvious, however, that such sentences are interpreted such that the causee is controlling the action of the embedded predicate, which is what Dubinsky seems to be suggesting. Thus Kuno's conclusion that causatives that embed transitives are ambiguous between the 'ni' and the 'o' causative still stands.

5.2 The potential

[Miyagawa 84] and [Miyagawa] contain interesting data concerning the interaction of the Japanese causative and the 'potential' morpheme. Japanese has a morpheme that expresses the notion of ability or possibility. It is affixed to the verb, before the negative and the tense morpheme. When it occurs, the case-marking of the arguments of the verb may be affected: what was marked with 'o' may now be marked with 'ga', resulting in a case array that is also associated with certain simple stative verbs, such as 'wakaru' (understand), and 'dekiru' (be able):

(55) Mitiko-wa hon -o yon -da
TOP book-ACC read-PST
"Mitiko read the book."

(56) Mitiko-wa hon -ga yom -e -ru
TOP book-NOM read-POT-PRES
"Mitiko can read the book."

(57) Mitiko-wa eigo -ga wakar -u
TOP English-NOM understand-PRES
"Mitiko understands English."

The following sentences are quoted from Miyagawa ((58) is (70) in [Miyagawa 84], (59) is (45) in [Miyagawa]):

(58) Taroo-ga kodomo-ni hon -ga kai-ni ik-ase-rare-ta
NOM child -DAT book-NOM buy-to go-CS -POT -PST
"Taroo was able to make the child go buy the book."

(59) Taroo-ga Hanako-ni kare-*ga/ -o
NOM DAT him -*NOM/ACC
hihan -s -ase-rare-ta
criticism-do-CS -POT -PST
"Taroo was able to make Hanako criticize him."

These sentences[19] pose some interesting problems for our analysis. Most obviously, it is unexpected that the object of the embedded verb can be marked with 'ga', since in the analysis given in this paper this NP receives its case from the embedded verb, and should not act as though it were the object of '-sase', as it appears to here. (59) actually poses a problem for Miyagawa's own parallel structure analysis, as he acknowledges, since the reduced structure meets the requirement for 'ga' and '-rare' to be in the same clause, and the unreduced structure is stipulated to be the

[19]The sentences actually given by Miyagawa in his paper were judged by native speakers I consulted to be marginal. However, acceptability of such sentences seems to be improved if the verb is put into the present tense and negated [Harumi Sawada, personal communication]. This is exactly the kind of example Kuno used in [Kuno 80].

one to which the binding conditions apply, thus permitting the co-reference between 'Taroo' and the pronoun. However, it is hard to incorporate these data into the discussion of the causative, without first possessing a convincing analysis of the potential construction in simplex sentences. In view of the current lack of such an analysis I shall not pursue this question here.

6 Conclusion

In this paper I have presented data from the Japanese and Korean causative constructions. In Section 3 I pointed out the problems associated with various analyses current in the literature, concluding that a successful account would have to reconcile the morphological integrity of the Japanese causative with other facts suggesting a complex structure for causative sentences. In Section 4 I outlined a proposal for such an account within a TAG framework, and contrasted the Japanese case with the Korean. Finally, I suggested some remaining problems and areas that call for further work.

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